



The Basic Facts

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The Basic Facts, College of Basic and Applied Sciences, Middle Tennessee State University, Murfreesboro, TN

TLSAMP Summer Bridge Program

The Science of Success

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The Tennessee Louis Stokes Alliance for Minority Participation held the 2006 Summer Bridge program June 11-25 on the campus of MTSU. Funded by the National Science Foundation, TLSAMP was created to increase the number of under-represented students in Science, Technology, Engineering and Mathematics (STEM).

The TLSAMP Summer Bridge program was an intensive three-week program designed to give incoming college students a jumpstart in preparing for the rigors of college life. Twenty-seven incoming freshmen from the consortium including MTSU, Tennessee State University, Vanderbilt, University of Memphis, and University of Tennessee received instruction from 8:00 a.m. - 8:00 p.m. The primary goal of the Summer Bridge program was to bridge the gap

between high school and college. Through participating in the program, Science, Technology, Engineering and Math (STEM) students were exposed to academic concepts in mathematics, physics, biology, chemistry, computer science, engineering technology, and language arts and also participated in science hands-on experiments. In addition, career and personal development skills were addressed in order to enhance the students' all around college knowledge. Also, the students were introduced to research methods and techniques.

In order to motivate and prepare program participants to excel ac-

ademically, eight program objectives were proposed to:

- 1) strengthen skills in mathematics, physics, biology, chemistry, computer science, engineering technology, and language arts;
- 2) provide hands-on laboratory experimentation in various science areas of study;
- 3) improve written communication skills;
- 4) increase preparedness for college;
- 5) increase motivation and ability to achieve in college classes;
- 6) provide exposure to a college environment;
- 7) expose participants to field trips to enhance them culturally and socially; and
- 8) promote parental involvement through a parent orientation.



The Science of Success

Visit our newsletter web site to view all The Basic Facts' issues:

<http://www.mtsu.edu/~collbas/newsletters>

Funding for Science Facilities

The Tennessee legislature approved Governor Bredesen's recommended budget for 2006-07, providing funding for design and site selection of our future new and renovated science facilities, and for construction of a new heating/cooling plant for MTSU's new science facilities. The governor signed the budget in a ceremony held on the MTSU campus June 22. In anticipation of hiring an architect and design team by the end of August 2006, representatives from the science and mathematics departments continue to address programming needs with Art Lidsky, our science building consultant.

So how much building will \$94 million provide? The fact is, approximately \$60 million will be available for a new science building after planning, infrastructure, site

preparation, equipment, fees and administrative costs are removed. With science facilities construction costs running \$275 to over \$325 per gross square feet, approximately 122,000 net square feet of new science facilities would be realized. Space needs outlined by each of

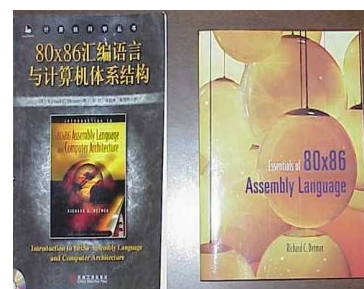
the departments (Biology, Chemistry, Computer Science, Geosciences, Mathematics, Physics & Astronomy) are over 300,000 square feet. (Art Lidsky noted that the department requests are conservative and not excessive when compared with academic peers.) Obviously, a greater need exists than funding will satisfy. For the remaining summer months, the departments will prioritize their needs and continue to develop a program that will be ready for architects in Fall 2006.



Art Lidsky, Dr. Gebert, Patti Miller & Dr. Cheatham

Detmer Publishes Again

Richard Detmer, Chairman of Computer Science, had a new book, *Essentials of 80x86 Assembly Language*, published by Jones and Bartlett this summer. His book, *80x86 Assembly Language and Computer Architecture*, published in 2001, was recently released in a Chinese language version.





The Basic B.E.S.T. (Boastful Educators Sharing Talents)

All departments are invited to submit items for this column

Biology

“Down and dirty” water quality issues are the topics explored by **Karen Hargrove**, MTSU Center for Environmental Education WaterWorks! Program, in a new video segment on MTSU’s Channel 5+ and Channel 9. Also a member of the Stones River Watershed Association (SRWA) Board, Hargrove was joined by SRWA President Beth Chesson to discuss stream assessment as ‘citizen science,’ the effects of rapid growth and development on water quality, and ways individuals can be aware of, and prevent, water pollution. This segment of “Middle Tennessee Record” will be aired every Saturday in July at 1:30 p.m. on Channel 5 Plus and also on MTSU Channel 9 in Murfreesboro every day at 5:00 p.m.

In the final report for his grant funded by the U. S. Department of Education titled “Biotechnology Resource Group: Workforce Training Program,” **Steve Wright**, director, reported that grant funds were used to make many updates to a classroom laboratory. These updates created a safe, modern space for students to conduct research and gain experience with biotechnology-related investigations. This grant was made possible with Congressman Bart Gordon’s assistance.

Chemistry

Judith Iriarte-Gross spent two weeks in a castle in Kruike Belgium teaching introductory chemistry to six Brothers of Charity. This religious order serves mentally ill and poor, abused, and abandoned people in countries all over the world. The six Brothers were from Sri Lanka, Congo, India, Philippines, and New Guinea and are in the process of earning a degree in Special Education. In addition to living



and teaching in the castle which was built in the early 1500s (with a moat and a modern computer lab in one of the castle’s turrets), Dr. Iriarte-Gross taught lab in the caretaker’s cottage located on the castle’s grounds. She also visited the Atomium in Brussels, an iron crystal structure built for the 1958 World’s Fair. This iron crystal is 65 million times its actual size!

Computer Science

Roland Untch attended the Summer Alice Workshop at Duke University in Durham, NC, June 18-22. **Cen Li** attended the BioInformatics and Computational Biology Summer Institute held at Iowa State University in Ames, IA, June 4-18.

Suk Jai Seo recently attended the Microsoft Academic Days Conference in Toronto, Canada.



Engineering Technology

Heather Brown recently spoke at several venues promoting pervious concrete and discussing her water quality research project on campus. On April 7 she presented at Smyrna Town Hall to city officials and stormwater engineers and was taped by their local Channel 3. On May 11, she spoke to the International Erosion Control Association meeting in Williamson County where she presented a lecture on water quality in construction development. She presented a paper on water quality between concrete and asphalt May

24-25 at the NRMCA Concrete Technology Forum in Nashville. June 12 she presented to Lavergne and Murfreesboro stormwater officials at Griggs and Maloney Engineering Firm.



Military Science

Fifteen MTSU Army ROTC cadets are attending the National Cadet Command Leadership Development Assessment Course at Fort Lewis,

WA. Recent graduates are Rachael Schenk, Naomi Dotson, Donald Cain, and Lindsey Sanderson. John Watson and Garrett Kidd graduated the Leadership Training Course at Fort Knox. Nicholas Gregory and Stephen Bonney completed Parachute School at Fort Benning and Rick Grant completed Air Assault School.

CBAS

The MTSU student team members of the SAE Formula Car, completed the 2006 SAE Formula Competition with great success this June. The students built the SAE Formula car from scratch, which is known to be the hardest part of the process. As a rookie team, they surprised everyone with their performance. The car not only went through the technical inspection, but it also participated in all the events—if a car does not pass the technical inspection, it is disqualified from participating in any event. Everyone was amazed that the rookie team qualified as well as it did. Overall, they finished in the top 25 percent. They also received a certificate “in recognition of Outstanding Performance by completing all events at Formula SAE West.” **Saeed Foroudastan**, the faculty advisor for the Mini Baja team, and the student team members would like to thank their sponsor, Mr. Jeff Lane of the Lane Motor Museum, for his encouragement and support.

Mathematical Sciences

Diane Miller was invited to Northwest Normal University in Lanzhou, P.R.C. (China) to give two lectures and visit classrooms in the College of

Mathematics and Information Systems (Computer Science). The two lectures, “What Research Says About the Use of Writing to Teach and Learn Mathematics” and “A Historical Perspective of the Evolution of School Mathematics Curriculum in the United States of America, 1900-2006,” were given to administrators, members of the faculty, and students in the college. Dean Ruyun Ma (3rd from left, back row) and Vice President Deng Hualing (3rd from left, front row) hosted Miller’s visit. In addition to the lectures and classroom visits, Miller talked with college and university personnel about future

